

CLAIMS

1. A radar device mounted on a moving object moving along a continuous plane comprising:

a transceiver unit which transmits a signal having a main lobe in a direction of movement of said moving object and a side lobe directed toward said continuous plane and for receiving a first reflection signal from a target in a direction of said main lobe and a second reflection signal from said continuous plane in a direction of said side lobe; and

control processing means which detects a frequency of a beat signal of said second reflection signal received by said transceiver unit and a signal emitted by said transceiver unit and for detecting information correlated to the relative attitude of said radar device for said continuous plane based on said frequency.

2. A radar device mounted on a moving object moving along a continuous plane comprising:

a transceiver unit which transmits a signal having a main lobe in a direction of movement of said moving object and a side lobe directed toward said continuous plane and for receiving a first reflection signal from a target in a direction of said main lobe and a second reflection signal from said continuous plane in a direction of said side lobe; and

control processing means which detects a frequency of a beat signal of said second reflection

signal received by said transceiver unit and a signal emitted by said transceiver unit and detects changes in an attitude of said radar device for said continuous plane based on said frequency.

3. A radar device according to either of claims 1 or 2,

wherein said control processing means detects a surface condition of said continuous plane based on the strength of a beat signal of said second reflection signal received by said transceiver unit and the signal emitted by said transceiver unit.

4. A radar system mounted on a moving object moving along a continuous plane comprising:

said radar device of claim 1; and

output means which outputs a result detected by said control processing means as information showing an attitude of said radar for said moving object.

5. A radar system mounted on a moving object moving along a continuous plane comprising:

said radar device of claim 2; and

output means which notifies a change in an attitude of said radar device for said moving object when said control processing means detects a change in mounting attitude of said radar device for said continuous plane.

6. A radar system mounted on a moving object moving along a continuous plane comprising:

said radar device of claim 3; and

output means which outputs a notification of a surface condition of said continuous plane detected by said control processing means.